



Polyisobutene (PIB) Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Trade name : Polyisobutene (PIB) PIB 04, 04 TR, 04 TF, PIB 06, 06 TR, 06 TF, 08, 08 TR, 08TF, 10 10 TR, 10TF, 12, 12 TF, 12 TR, 16, 16 TF, 16TR
CAS No : 9044-17-1

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Utilized to formulate lubricating oils as well as to manufacture its additives and cosmetics (lipstick, gloss); manufacture of adhesives and fuels, modification of plastics such as EVA and PE.

1.3. Details of the supplier of the safety data sheet

Distributor:
Silver Fern Chemical, Inc.
2226 Queen Anne Avenue North
Seattle, WA 98109 USA
Customer Service: 1-866-282-3384
Website - www.silverfernchemical.com;
email address - info@silverfernchemical.com

1.4. Emergency telephone number

INFOTRAC : +1-800-535-5053; Outside USA & Canada +1-352-323-3500

2.1. Classification of the substance or mixture

GHS-US classification

Asp. Tox. 1 H304

Full text of H-statements: see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : GHS08
: Danger
Hazard statements (GHS-US) : H304 - May be fatal if swallowed and enters airways
Precautionary statements (GHS-US) : P301+P310 - If swallowed: Immediately call a POISON CENTER
P331 - Do NOT induce vomiting
P405 - Store locked up
P501 - Dispose of contents/container to comply with applicable local, national and international regulation.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

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SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type : Polymer
Name : Polyisobutene (PIB)
CAS No : 9044-17-1

Name	Product identifier	%	GHS-US classification
Butene, polymer with 2-methyl-1-propene	(CAS No) 9044-17-1	100	Asp. Tox. 1, H304

Full text of H-statements: see section 16

3.2. Mixture

Not applicable

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to fresh air. In case of irregular breathing or respiratory arrest provide artificial respiration. Seek medical advice.

First-aid measures after skin contact : In case of contact with cold material: . Wash skin with plenty of water and soap. In case of contact with hot material: . Rinse immediately with plenty of water for 15 minutes. Seek immediate medical advice. Obtain medical attention.

First-aid measures after eye contact : In case of contact with cold material: . Rinse immediately with plenty of water. In case of contact with hot material: . Rinse immediately with plenty of water for 15 minutes. Seek medical advice.

First-aid measures after ingestion : Do not induce vomiting. Drain stomach by gastric lavage under qualified medical supervision. Immediately get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : The product decreases available oxygen, causes suffocation.

Symptoms/injuries after skin contact : Hot material can cause burns.

Symptoms/injuries after eye contact : Hot material can cause burns.

Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways. Ingestion may cause nausea and vomiting. Central nervous system depression. Convulsions. Death.

4.3. Indication of any immediate medical attention and special treatment needed

In case of burn skin, to minimize physical damage to the skin, do not remove the polybutene. Cover the injured area with appropriate burn gel.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : carbon dioxide (CO₂), dry chemical powder, foam. Water spray.

Unsuitable extinguishing media : Do not use a water jet since it may cause the fire to spread.

5.2. Special hazards arising from the substance or mixture

Fire hazard : On combustion forms: Carbon monoxide. Carbon dioxide.

Reactivity : May react with strong acids or strong oxidizing such as chlorates and peroxides.

5.3. Advice for firefighters

Firefighting instructions : Cool closed containers exposed to fire with water spray.

Protective equipment for firefighters : Fully enclosed impervious protective suit with integral or tight-fitting gloves, boots, self-contained or supplied air respirator must be worn. Refer to section 8.

Other information : Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Wear protective clothing as described in Section 8 of this safety data sheet.

Emergency procedures : Stop leak if safe to do so. stay away from low ground with wind on your back. Clean up even minor leaks or spills if possible without unnecessary risk.

6.1.2. For emergency responders

Protective equipment : Wear protective clothing as described in Section 8 of this safety data sheet.

Emergency procedures : Eliminate leaks immediately. stay away from low ground with wind on your back. Clean up any spills as soon as possible, using an absorbent material to collect it. Collect all waste in suitable and labelled containers and dispose according to local legislation. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

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6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Do not discharge into drains or the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Eliminate leaks immediately. Ventilate affected area.
Methods for cleaning up : Eliminate leaks immediately. apply water mist to increase dispersion rate. Provide adequate ventilation.

6.4. Reference to other sections

refer to section 8. For disposal of residues refer to section 13 : Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : product shall only used by fully trained professional users that are knowledgeable on all hazards posed by it. Use only in well-ventilated areas. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes.
Handling temperature : Heating is not required or recommended for processing
Hygiene measures : Handle in accordance with good industrial hygiene and safety practices.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Provide adequate ventilation.
Storage conditions : Keep container tightly closed. Store in a well-ventilated place. Keep cool. Bulk storage does not require any special measure. If product is held heated above 60°C the use of nitrogen blanket is recommended.
Incompatible materials : None known.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Polyisobutene (PIB) (9044-17-1)

DNEL	DNEL	No significant hazards.
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8.2. Exposure controls

- Appropriate engineering controls : Provide adequate ventilation. Either local exhaust or general room ventilation is usually required. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Personal protective equipment : Gloves. Protective goggles. Protective clothing.



- Hand protection : Insulating protective gloves.
Eye protection : Wear chemical goggles if material is handled hot. Not required for normal conditions of use.
Skin and body protection : When skin contact is possible, protective clothing including gloves, apron, sleeves, boots, head and face protection must be worn.
Respiratory protection : if the workers are exposed to concentration above the exposure limit, they should use appropriate certified filtering respiratory devices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
Appearance : Clear. viscous.
Molecular mass : 330 g/mol (typical)
Colour : colourless
Odour : Odourless.
Odour threshold : No data available
pH : not applicable

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Relative evaporation rate (butyl acetate=1)	: not applicable
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 125 °C
Auto-ignition temperature	: ca. 140 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: ca. 0.841 g/cm ³ (water =1)
Solubility	: Water: < 0.1 % Negligible in water
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: 14 - 19 mm ² /s (at 37.8 °C)
Viscosity, dynamic	: No data available
Explosive properties	: not explosive.
Oxidising properties	: not oxidizing.
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

May react with strong acids or strong oxidizing such as chlorates and peroxides.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong acid. Strong oxidizing agents.

10.6. Hazardous decomposition products

Heating this product up 260°C may cause rapid depolymerization with production of extremely flammable isobutene vapors. Thermal combustion may release carbon monoxide and dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Polyisobutene (PIB) (\f)9044-17-1	
LD50 dermal rabbit	> 10000 mg/kg

Butene, polymer with 2-methyl-1-propene (9044-17-1)	
LD50 dermal rabbit	> 10000 mg/kg

Skin corrosion/irritation	: Not classified pH: not applicable
Serious eye damage/irritation	: Not classified pH: not applicable
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

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Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.
Symptoms/injuries after inhalation	: The product decreases available oxygen, causes suffocation.
Symptoms/injuries after skin contact	: Hot material can cause burns.
Symptoms/injuries after eye contact	: Hot material can cause burns.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways. Ingestion may cause nausea and vomiting. Central nervous system depression. Convulsions. Death.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

Polyisobutene (PIB) (9044-17-1)

Persistence and degradability	Product is not easily biodegradable.
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Butene, polymer with 2-methyl-1-propene (9044-17-1)

Persistence and degradability	Product is not easily biodegradable.
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12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on the global warming : No additional information available

Other information : This product is not expected to move rapidly on water flows/surface due the high viscosity and very low solubility.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Dispose of contents/container to comply with applicable local, national and international regulations.

Waste disposal recommendations : Consult the appropriate local waste disposal expert about waste disposal.

Additional information : Do not cut, grind, drill, weld, reuse or dispose off containers unless adequate precautions are taken against these hazards.

SECTION 14: Transport information

In accordance with DOT

Not regulated for transport

Additional information

Other information : No supplementary information available.

ADR

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

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SECTION 15: Regulatory information

15.1. US Federal regulations

Butene, polymer with 2-methyl-1-propene (9044-17-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Butene, polymer with 2-methyl-1-propene (9044-17-1)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

No additional information available

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

No additional information available

15.2.2. National regulations

Butene, polymer with 2-methyl-1-propene (9044-17-1)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Korean ECL (Existing Chemicals List)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

No additional information available

SECTION 16: Other information

Sources of Key data

: SDS

Abbreviations and acronyms

: CAS - Chemical Abstracts Service. CLP - Classification, Labelling and Packaging. CSR - Chemical Safety Report. EC - European Community. EEC - European Economic Community. Overland transport (ADR). STEL- Short-Term Exposure Limit . REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals. SDS - Safety Data Sheet . PBT - Persistent, Bioaccumulative and Toxic substance. PEL- Permissible Exposure Level. TLV- Threshold Limit Value. TWA- Time Weighted Average. vPvB - Very Persistent and Very Bioaccumulative. NLP- No Longer Polymer.

Full text of H-statements:

-----	Asp. Tox. 1	Aspiration hazard, Category 1
-----	H304	May be fatal if swallowed and enters airways

DISCLAIMER OF RESPONSIBILITY

The information on this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume damage or expense arising out of or in any way responsibility and expressly disclaim liability for loss, connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable.